USRP-2900 Specifications

2024-11-25

Contents

USRP-2900 Specifications

Definitions

Warranted specifications describe the performance of a model under stated operating conditions and are covered by the model warranty.

Characteristics describe values that are relevant to the use of the model under stated operating conditions but are not covered by the model warranty.

- ***Typical*** specifications describe the performance met by a majority of models.
- ***Nominal*** specifications describe an attribute that is based on design, conformance testing, or supplemental testing.

Specifications are ***Characteristics*** unless otherwise noted.

Conditions

Specifications are valid at 25 °C unless otherwise noted.

Transmitter

Frequency range	70 MHz to 6 GHz
Frequency step	<1 kHz
Maximum output power (P_{out})	20 dBm
Gain range[1]	89.75 dB

Gain step	0.25 dB
Frequency accuracy[2]	2.5 ppm
Maximum instantaneous real-time bandwidth	56 MHz
Maximum I/Q rate[3]	
Streaming[4]	15 MS/s
Burst	61.44 MS/s
Digital-to-analog converter (DAC)[5]	12 bits

Receiver

Frequency range	70 MHz to 6 GHz
Frequency step	<1 kHz
Gain range[6]	76 dB
Gain step	1.0 dB
Maximum input power (P_{in})	-15 dBm

Noise figure	5 dB to 7 dB
Frequency accuracy[7]	2.5 ppm
Maximum instantaneous real-time bandwidth	56 MHz
Maximum I/Q rate[8]	
Streaming[9]	15 MS/s
Burst	61.44 MS/s
Analog-to-digital converter (ADC)[10]	12 bits

Power Requirements

Total power, typical operation	
Typical	12 W to 15 W
Maximum	18 W
Power requirement	Accepts a 6 V, 3 A external DC power source

Caution You must use either the power supply provided in the shipping kit, or another listed ITE power supply marked ***LPS***, with the device.

Note The protection provided by this product may be impaired if it is used in a manner not described in this document.

Attention Vous devez utiliser avec l'appareil soit l'alimentation livrée dans le kit, soit une autre alimentation ITE (équipement informatique) agréée, portant le symbole ***LPS***.

Physical Characteristics

Physical dimensions	
(L × W × H)	12.5 cm × 9.4 cm × 3.8 cm (7.0 in. × 4.9 in. × 1.5 in.)
Weight	676 g (1.5 lb)

Environment

Maximum altitude	2,000 m (800 mbar) (at 25 °C ambient temperature)
Pollution Degree	2

Indoor use only.

Operating Environment

Ambient temperature range	23 °C ± 5 °C
Relative humidity range	10% to 90%, noncondensing (tested in accordance with IEC

	60068-2-56.)

Compliance and Certifications

Safety Compliance Standards

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA C22.2 No. 61010-1

Note For safety certifications, refer to the product label or the Product Certifications and Declarations section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- EN 55022 (CISPR 22): Class A emissions
- EN 55024 (CISPR 24): Immunity
- AS/NZS CISPR 11: Group 1, Class A emissions
- AS/NZS CISPR 22: Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

Note In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia, and New Zealand (per CISPR 11), Class A equipment is intended for use only in heavy-industrial locations.

Note Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.

Note For EMC declarations, certifications, and additional information, refer to the Product Certifications and Declarations section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2011/65/EU; Restriction of Hazardous Substances (RoHS)
- 2014/53/EU; Radio Equipment Directive (RED)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

Product Certifications and Declarations

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for NI products, visit ni.com/product-certifications, search by model number, and click the appropriate link.

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the ***Engineering a Healthy Planet*** web page at ni.com/environment. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

EU and UK Customers

- **Waste Electrical and Electronic Equipment (WEEE)**—At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit ni.com/environment/weee.

电子信息产品污染控制管理办法（中国RoHS）

- **中国RoHS**— NI符合中国电子信息产品中限制使用某些有害物质指令(RoHS)。关于NI中国RoHS合规性信息，请登录 `ni.com/environment/rohs_china`。(For information about China RoHS compliance, go to `ni.com/environment/rohs_china`.)